CITY COUNCIL COMMUNICATION

MEETING DATE: May 07, 2013 **ITEM NUMBER: <ITEM_OUTLINE>**

SECOND READING: N/A

TYPE OF ITEM: General Business

PRESENTED BY: Dale Rademacher, Public Works & Natural Resources Director, 303-651-8355
Ken Huson, Water Resources Administrator, 303-651-8340
Wes Lowrie, Water Resources Technician, 303-651-8814

SUBJECT/AGENDA TITLE: Adoption of City of Longmont's 2013/14 Water Supply and Drought Management Plan

EXECUTIVE SUMMARY:

Water Board and staff annually present an update on the City's water supply and present for City Council consideration a Water Supply and Drought Management Plan. The last City Council update on this subject occurred on March 19th. Since that time staff has incorporated Water Board, Citizen and Council input into the development of the attached 2013/14 Water Supply and Drought Management Plan.

Longmont's current water supply and drought management plan, adopted on May 8, 2012, calls for the City to operate under a sustainable conservation level at our current water supply ratio of 141% and to plan for and prepare for implementing level one policies in the event this level needs to be implemented due to worsening drought conditions. Staff currently recommends that the City remain at the sustainable water conservation level, however since the water supply projections continue to be close to a level one declaration; certain level one action items have been implemented. These include planned reductions in outdoor use of water on municipally owned lands and reduction and/or elimination of some components of the 2013 surplus water rental program. Planned City water use reductions, which included postponing the start of outdoor municipal irrigation systems until the week of May 1st have already been implemented.

The good news continues to be that Longmont has, and continues to project, sufficient potable municipal water supplies for 2013 and 2014. Additional good news is that with the increasing snow pack, Union Reservoir is likely to receive sufficient additional storage water to allow for opening of the boat ramp early in the summer season.

In consultation with Water Board, PW&NR staff prepared the attached 2013/14 Water Supply and Drought Management Plan for City Council's consideration. The staff presentation for this item has previously been recorded and can be found at the following two locations:

http://65.49.32.143/psportal/public/longmontcouncil/webcast.aspx
http://www.youtube.com/user/cityoflongmont

Recommendation:
At their April 15th Water Board meeting, the Board reviewed the attached 2013/14 Water Supply and Drought Management Plan and unanimously recommended approval. Staff concurs with Water Board's recommendation to approve the 2013/14 Water Supply and Drought Management Plan and remain at a Sustainable Water Conservation Level.

COUNCIL OPTIONS:
1. Adopt 2013/14 Water Supply and Drought Management Plan as presented.
2. Adopt a revised 2013/14 Water Supply and Drought Management Plan.
3. Do not adopt a plan at this time.

RECOMMENDED OPTIONS: Option 1.

FISCAL IMPACT & FUND SOURCE FOR RECOMMENDED ACTION: N/A

BACKGROUND

In an ongoing effort to inform the citizens and City Council about Longmont's projected available water supply and demand, staff first began preparing a formalized Water Supply & Drought Management Plan during the drought of 2002. This plan has been annually reviewed and adopted by City Council since that time. Also, on a monthly basis, staff reviews with the Longmont Water Board the City's current and projected water supply status. Due to the ongoing drought conditions being experienced in Colorado, staff has also been updating City Council and the public on a more regular basis these past two years.

Last year, Water Board recommended to City Council that the City remain at a Sustainable Conservation Level Drought Response. Council concurred with Water Board in May of 2012, and Longmont currently remains at that drought response level at this time.

The April 1st 2012 Natural Resources Conservation Service (NRCS) stream flow forecast for St. Vrain Creek at Lyons, for the period of April-September was 56% of average. The May 1st 2013 forecast is not yet available. Given the wet and snowy weather conditions during April, staff is anticipating that the May 1st streamflow projection will be higher than the April 1st projection. If the NRCS information becomes available prior to Council's review of this item, staff will present that information during the May 7th meeting. Current St. Vrain Creek Basin area storage is at 60% of capacity. Average basin storage for this time of year is typically around 65% of capacity.

In April the Northern Colorado Water Conservancy District Board set the Colorado Big-Thompson project (CBT) quota for this year at 60%. With that quota, Longmont's 2013 transbasin water supply is 14,474 acre-feet of water. It is possible the Northern Water Board could declare a supplemental quota based upon the recent additional snow pack in the Upper Colorado River basin. In that event the City's transbasin water supply for 2013 would increase. The City's total water supply for 2013, after historical leaseback is deducted, is projected to be a minimum of 26,082 acre-feet.

Attached to this communication, as part of the 2013/14 Water Supply and Drought Management Plan, is an updated water supply forecast for 2013-2014. Tables A and B show the current projection for the City of Longmont's 2013 water supply to be 141% of demand, assuming a

sustainable conservation level is maintained. In 2014, the City's water supply is projected to be at 138%, still at a sustainable conservation level. These percentages represent a conservative estimate of water rights available and assume the maximum amount of Colorado Big-Thompson Project water is available for carryover into the following years. Should Longmont utilize this water in 2014, the effective percent of supply to demand at a sustainable conservation level for 2014 would be even higher. These projection numbers are all within thresholds set for a sustainable conservation level.

Also, during 2013, PW&NR staff will continue to implement demand management strategies outlined in the Water Supply & Drought Management Plan, as well as the Water Conservation Master Plan. While the City continues to have an adequate potable water supply, many other water activities will be impacted by the current drought. Following is a summary of the major impacts and current action being taken.

Changes to municipal operations:

- Because of the dry conditions of City park fields, organized sports activities on City fields will be monitored by City staff and limited if necessary to protect the City's investment in our parks and sports fields.
- Boating activity at Union Reservoir is currently limited to hand launch boats only due to low water levels making the boat ramp inaccessible. The patrol boat is also not available because of the inability to launch. Recreational users, including season pass holders, at Union Reservoir are being informed of this prior to purchasing passes. It is however projected that the additional snow pack in April will allow sufficient storage into the reservoir to allow opening of the boat ramp later this season. In any event it is unlikely the reservoir will fill to its full capacity this year.
- Because of the low water levels at Union Reservoir, the appropriateness of swimming is currently being evaluated for this summer. Further information necessary to make a decision on whether swimming should be permitted this summer. Staff anticipates sufficient information upon which to make a decision will be available in May and if it appears sufficient water will be available to safely open the swim beach, staff will return to Council for that direction.

Public information efforts:

- Longmont's public information staff is coordinating with other Boulder and Broomfield County's water suppliers to issue joint drought information press releases.

Municipal reduction in water use:

- A 10% reduction from 2012 use levels in outdoor water use on municipally owned parks, golf courses, open space and arterial irrigation systems has been initiated.
- Water supplies for critical sport fields are being maintained.
- Start-up of municipal irrigation systems will occur no earlier than the week of May 1st and may be further delayed depending upon the amount of precipitation that occurs during the remainder of April and early May.

Reduction in Surplus Water Rental programs:

- St. Vrain Valley School District Lease. Annually, surplus water is rented to the St. Vrain Valley School District, up to the first 1,000 acre feet, under a longstanding lease agreement. Staff has consulted with the School District and a 10% reduction of this

rental water will occur in 2013. The remainder of this annual rental program has occurred.

- Historical Leaseback provision of the Municipal Code. Section 14.05.080 of the municipal code allows staff to annually lease back water that historically irrigated annexed parcels of property in the interim time period between annexation and development. While the City's 2012 Water Supply and Drought Management Plan calls for review of the possibility of eliminating the historical leaseback program during a Level One Drought declaration, it continues historical leaseback at the Sustainable Water Conservation Level. As such, at the March 19th City Council meeting, Council directed staff to continue the historical leaseback program for 2013.
- While the City will continue to lease the historical water on City owned properties such as open space and water property around Union Reservoir, the lease of water in addition to the historical amounts has been discontinued for 2013.
- Additional surplus water rental normally occurs through a cooperative program with the Saint Vrain and Left Hand Water Conservancy District. Staff's analysis of the City's water supply indicates that the City will not have surplus water available to rent for the remainder of the 2013 water year. City Council concurred with staff on this issue at the March 19th Council meeting, but asked staff to update the Council on this program. After the March 19th Council meeting staff informed the District of that situation. At the current time there still remains insufficient surplus water to continue this program in 2013.

SUMMARY

As the current drought continues, staff will monitor and update Council and the community on the City's water supply status. The current water supply and projected demands indicate that it would be appropriate for the City to remain at a Sustainable Water Conservation level. Staff has prepared a video presentation for Council and the community to view, and will be available at the Council meeting to answer questions and provide City Council with any additional or updated information that becomes available in the interim time period.

ATTACHMENTS:

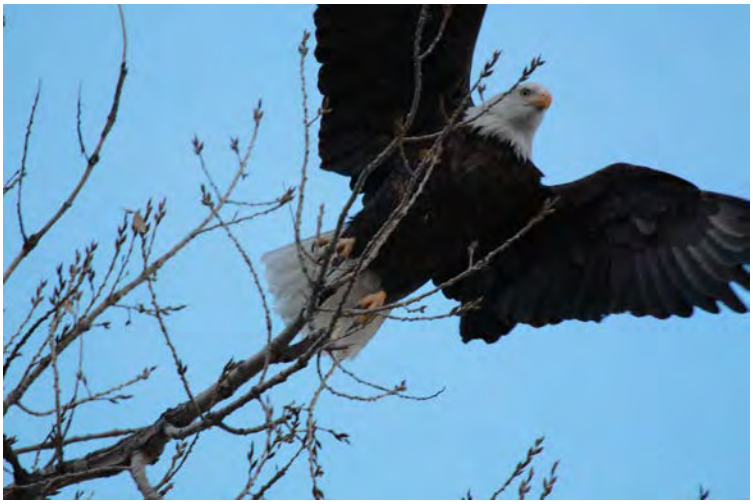
Proposed 2013/14 Water Supply & Drought Management Plan
Tables A & B for Drought Plan
Ralph Price Reservoir 2013 storage projections
Union Reservoir 2013 storage projections
Lake McIntosh Reservoir 2013 storage projections
City's Guiding Water Principles
South Platte & Upper Colorado River Basin Snowpack Summaries
Drought Index

City of Longmont
2013/2014 Water Supply & Drought Management Plan

Purpose:
The purpose of the City of Longmont's 2013/2014 Water Supply & Drought Management Plan is to manage the City's Water Supply and to anticipate, identify and respond to drought in the Saint Vrain Creek watershed area. This plan will evaluate the impact on raw water availability for the City of Longmont and recommend responses to the current water supply and demand forecast. This plan also formalizes the City's planning for future droughts.

Methodology and Responsibility:
The City of Longmont's Water Supply & Drought Management Plan will be managed by the Water Resources & Environmental Services Divisions of the Public Works & Natural Resources Department, referred to as Division. Indicators of drought, as outlined in this plan will be monitored by personnel in the Division. The Division will recommend appropriate action, guided by the response plan as outlined in this plan, for response to differing levels of drought.

Bald Eagle at Union Reservoir – December 2012



Definition of Drought:
A drought is typically defined as single or multiple consecutive water years with below average stream flow. For the purposes of drought response planning, the droughts of interest would only include those droughts that, because of severity, directly impact and stress raw water availability for the City of Longmont.

Revision Date: April 10, 2013

City of Longmont
2013/2014 Water Supply & Drought Management Plan

"Conserving our Water to Preserve our Quality of Life"

I. City of Longmont's Drought Supply Policy:

The City of Longmont's raw water drought supply policy is outlined in the Raw Water Master Plan. This plan describes the City's policy of using the 1-in-100 year drought recurrence interval as the basis of planning for the City's raw water supply. This drought interval is based upon a drought of approximately 7 years in length with a total Saint Vrain Creek watershed deficit of 237,000 acre-feet. This plan also describes drought indicators and potential forecasting methodologies to be used to predict drought and determine its severity and impacts on the City's raw water supply.

The Saint Vrain Creek has historically experienced drought conditions and will continue to do so in the future. The annual average measured flow in the Saint Vrain Creek at the Lyons gaging station for the period 1896 to 1982 was 93,000 acre-feet. After the addition of diversions from the creek above the Lyons gaging station, the estimated virgin flow for this period is 124,000 acre-feet. A drought of seven years in length, with a total deficit of 237,000 acre-feet, would result in a deficit of approximately 34,000 acre-feet per year. 2012 represented these conditions and would be considered the first year of a drought.

During 2012, the Saint Vrain River Basin experienced below average streamflow conditions as a result of below average snowpack and rainfall events. Water Board recommended and City Council concurred in May of 2012 to remain at a Sustainable Conservation Level Drought Response for 2012. As a result of the below average stream flows during 2012 Longmont finished the 2012 irrigation season (October 31, 2012) with below average storage in its local reservoirs at 78% of capacity. With continued long-term water conservation efforts of the citizens of Longmont the City has realized a similar demand for water when compared with previous years. Current projections are that by July 1, 2013 select reservoir storage will be approximately 83% of full. During 2013 the Public Works & Natural Resources staff will continue to implement demand management strategies outlined in this plan. Water Resources staff will continue to pursue opportunities to exchange additional water to supplement the existing water supply.

Prior Water Data	2011	2012
Total Water Supply Available	25,416 acre-feet	25,817 acre-feet
Total Treated Water Demand	18,257 acre-feet	18,440 acre-feet

Snow Pack as of April 1, 2013	South Platte River Basin	Colorado River Basin
	70%	72%

For 2013 Longmont expects to continue to utilize native basin water rights, trans-mountain water rights, and local storage water rights.

Description of Indicators and Forecasting Methods:

- **Natural Resources Conservation Service's Monthly Streamflow Forecast**
  Table A indicates how the Streamflow Forecast can be used to evaluate impacts upon Longmont's water rights on an average and dry basis. Based upon the streamflow forecast, the projected yield of direct flow and storage decrees will be used for calculation of raw water availability during drought conditions. This effort will focus on the April 1st and May 1st Streamflow forecasts as an indicator of drought in the upcoming irrigation season.

- **Natural Resources Conservation Service's Monthly Snowpack Survey**
  The Snowpack Survey will be used in validating and/or adjusting the Streamflow Forecasts. These surveys also provide real-time measurement of snowpack to assist in reviewing projections in the time between monthly streamflow forecasts.

- **Saint Vrain Creek Basin Reservoir Storage Levels**
  Total reservoir storage in the Saint Vrain Basin varies with the availability of water during the storage season (usually November through June). The total Saint Vrain Creek storage levels will be used in conjunction with target storage levels in Ralph Price Reservoir. When comparing storage levels in reservoirs with storage rights senior to Ralph Price Reservoir, water supply availability can be projected for the storage components of Longmont's water portfolio. An example of this information for Ralph Price Reservoir is shown in Table B.

- **Trans-Mountain Water Supply Availability**
  Colorado-Big Thompson Project (C-BT) Quota Declaration and Longmont carry-over of C-BT allocation from the previous year will be utilized in establishing trans-mountain water supply availability for 2013 and projections for later years. This trans-mountain water availability includes C-BT quota declarations, Upper Baldwin Ditch Replacement water, Carry-over C-BT water, Exchanged C-BT water, and Windy Gap water supplies. On November 1, 2012 the NCWCD Board set the initial 2013 quota declaration for the C-BT system at 50%. On April 12, 2013 an additional 10% declaration was made which resulted in combination with the other trans-mountain water supplies, of a total trans-basin water supply yield of 14,775 AF.

- **Raw Water Availability for City of Longmont**
  Raw water availability will be updated and revised by the Division staff to estimate Water Treatment Plant demands and projected raw water availability for Longmont. An example of 2013 raw water availability is included in Table A. Projected demand in this table is based upon a Sustainable Conservation Level drought response assumption.

- **City of Longmont Treated Water Demands Greater than Normal**
  As drought conditions occur, water use often increases and raw water availability decreases. Treated water demand projections will be adjusted in accordance with

this expected increase. Actual use as the drought progresses will be included in the evaluation of projected water demands.

- **City of Longmont Water Supply Projections for Multi-year Drought Projections**
  As an additional tool in evaluating the current year drought response level, Division staff will complete a multiple year water supply evaluation. The current and next water year of that projection will be used to determine the drought response level for the City.

II. Description of Drought Supply Response Levels:

Division staff is responsible for monitoring drought indicators and forecasting raw water availability. The following guidelines will assist Division staff and Water Board in advising City Council in determining the appropriate course of action to undertake in varying degrees of drought intensity. These will serve as a guideline only, with the experience and year by year specific details also guiding the City's actions in any given drought scenario. The City Manager, with the advisement of Division staff, will have the power to declare a specific response level in the case of an emergency. Division staff will compare raw water supply with projected demand and monitor the storage levels in Ralph Price Reservoir and the Saint Vrain Creek Basin. If the combination of supply and available storage exceed projected demand by more than 135%, the City's water supply will not be considered in a drought scenario. The City will continue to take water conservation actions at all times, especially during years of below average streamflow.
Percent of water savings goal referred to hereafter shall be with respect to last year's actual demand.

Sustainable Conservation Level:
At the sustainable conservation level the City will continue to implement Best Management Practices to conserve the water resources of the City.

Target Water Savings Goal: Sustainable demand management at all times to insure reasonable water conservation practices are followed utilizing best management practices and that the overall goal of a 10% water savings as outlined in the Raw Water Master Plan is realized.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir greater than target levels for the Level One Drought Response in Table B; and
- Raw water supply availability projections for the current and next water year at a level greater than **135%** of projected water demand.

Level One Drought Response Targets:
At Level One, conditions will moderately impact the City's supply vs. demand.

Target Water Savings Goal: Sufficient demand management, up to 10%, to insure demand does not exceed raw water availability.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.
- Raw water supply availability at a level of **120% - 135%** of projected water demand.

Level Two Drought Response Targets:
At Level Two, conditions will severely impact the City's supply vs. demand.

Target Water Savings Goal: 10% to25%

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.
- Raw water supply availability at a level of **105% - 120%** of projected water demand.

Level Three Drought Response Levels:
At Level Three, conditions will critically impact the City's supply vs. demand.

Target Water Savings Goal: To be determined at time of level three drought, goal dependent upon drought severity and water savings needs.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.
- Raw water supply availability at a level less than **105%** of projected water demand.

III. Description of Drought Response Action Plans:

Sustainable Conservation Level:
Upon determining that actionable drought conditions do not exist for the City of Longmont, any or all of the following may be performed:

- Continue public information concerning impacts to the City of Longmont's water supply to encourage that best management practices (BMP's) are followed. The City will continually promote a public water conservation campaign. BMP's include but are not limited to:
    1. No water being wasted.
    2. Time of day watering restrictions, such as no unattended irrigation between the hours of 10:00 a.m. and 6:00 p.m., will be encouraged.
    3. Use soil amendments and mulch in conjunction with appropriate plant selections.
    4. Check and replace leaky faucets and toilets.
    5. Wash only full loads of cloths and dishes.

- Voluntary measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation will conserve water where possible and utilize BMP's.
    2. Golf courses will conserve water where possible and also utilize BMP's.

3. School District will be encouraged to follow BMP's and conserve water where possible.
4. City owned facilities will strive to set the benchmark for water use practice.
5. Encourage all customers served by Longmont Water Utilities to implement BMP's for total water use.

- Division staff will prepare for implementing Level One policies in the event this level occurs. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. The Division will also continue training and assigning staff to monitor outdoor water use to insure sustainable conservation efforts are followed and prepare in the event that a Level One drought is determined.

Level One Drought Projection:
Upon determining a Level One drought exists, the City of Longmont may perform any or all of the following efforts, utilizing the actual previous year's water use as the base year for comparison purposes:

- Increase public information about the drought severity and review and enactment of appropriate conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing moderately dry conditions existing at that time.

- Voluntary water conservation by service customers.
    1. Encourage all customers served by the Longmont Water Utilities to implement a ten percent (10%) reduction in water use from historical levels.
    2. Water users who normally use raw water, well water or other sources of water for irrigation will be requested to not increase use of water through the potable water system during drought emergencies.
    3. Irrigation class tap customers may be required to reduce demand by 10%.
    4. Community garden users, as well as private garden users, will be encouraged to implement a ten percent (10%) reduction in water use from historical levels.

- Mandatory measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation will conserve water where possible, resulting in a net 10% reduction of historical annual use. Voluntary reductions apply to municipally owned critical sports fields and parks.
    2. Golf courses will conserve water where possible, resulting in a net 10% reduction of historical annual use.
    3. School District irrigation water lease reduction as appropriate, resulting in a minimum of 10% reduction of historical annual use.

4. Saint Vrain Creek Corridor Committee water lease reduced (or eliminated) to the extent that water is unable to be recaptured for use at the Water Treatment Plants.
5. All other municipal water use will be reduced by 10% (Building use, Fire dept. etc.) of historical annual use.

- Raw water leases and bulk water sales.
    1. Surplus water rental reduced or eliminated.
    2. Historic lease back of raw water reduced or eliminated.
    3. No water leases are guaranteed during a Level One drought (except by existing contracts). If leases are approved the City may elect to increase the lease rate to recover investment costs and to discourage non-essential uses.
    4. Bulk water permits will be reviewed for use and total demand on system. Normal use of water through bulk permits will be allowed, but use of fire hydrants for irrigation will not be allowed.

- In drought years, there are many uses of water that will change compared to use during average and above average water years. Following are some examples of these changes in that water usage:
    1. Use of water in Golden Ponds will gradually change from primarily piscatorial to supply. In a Level One drought, water levels in the west pond will be allowed to equalize with the middle pond, with use of that amount. In addition, if the level of Golden Ponds lowers, water will not normally be replaced in this facility until the drought ends.
    2. Union Reservoir water levels will be lower than normal, resulting in lowered ability to conduct late season recreational activities on the reservoir.

- Division staff will develop plans for implementing Level Two policies in the event this level occurs. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. The Division will also continue training and assigning staff to monitor outdoor water use in the event that a Level Two drought is determined.

- Time of day watering restrictions, such as no unattended irrigation between the hours of 10:00 a.m. and 6:00 p.m., will be evaluated for practicality of implementation.

Level Two Drought Projection:
Upon determining a Level Two drought exists, the City of Longmont may perform any or all of the following:

- Continue public information about the drought severity and enactment of increasing conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing severely dry conditions. As part of the conservation strategies, the City has developed a conservation rebate program,

which will provide rebates for purchase of low volume toilets to replace high volume toilets and water efficient front-loading clothes washers.

- Mandatory water conservation by service customers.
    1. Require all customers served by Longmont Water Utilities, including community garden users, to implement a minimum ten percent (10%) reduction in water use.
    2. Implement a formal mandatory watering program to be followed by customers.
    3. No additional water use through the potable system to replace water normally used through raw water, well water or other water supply scenarios.
    4. Irrigation class tap customers will be required to reduce demand by a minimum of 20%.

- Mandatory measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation water reductions at a level between 20% and 90% depending upon severity of drought and overall response to demand reductions. To the extent possible, the identified critical sports fields, trees and non-turf landscaped areas will continue to be irrigated with a 10% reduction in application of water.
    2. Golf course watering will be reduced between 20% and 90% depending upon severity of drought and overall response to demand reductions.
    3. School District irrigation water lease reduction at a level between 20% and 90% depending upon severity of drought and overall response to demand reductions.
    4. Saint Vrain Creek Corridor Committee water lease eliminated to the extent that water is unable to be recaptured for use at the Water Treatment Plants.
    5. All other municipal water use will be reduced to the maximum extent possible (Building use, Fire dept. etc.).

- Raw water leases and bulk water sales.
    1. Surplus water rental eliminated.
    2. Historic lease back of raw water reduced or eliminated.
    3. No water leases are guaranteed during a Level Two drought (except by existing contracts). If leases are approved, the City may elect to increase the lease rate to recover investment costs and to discourage non-essential uses.
    4. Bulk water permits will be reviewed for use and total demand on system. Normal use of water through bulk permits may be allowed, but use of fire hydrants for irrigation will not be allowed.

- Division staff shall develop plans for implementing Level Three policies, including mandatory water use reductions. The Division will monitor drought response effectiveness, recommend adjustments, and report to the public regularly.

- The Division will continue to train and assign staff in monitoring, issuing warnings and imposing penalties for water waste and violations of any permits and noncompliance with any water restrictions.

Level Three Drought Projection:
Upon determining a Level Three drought exists, the City of Longmont may perform any or all of the following:

- Continue public information about the drought severity and enactment of mandatory conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing critically dry conditions.

- Mandatory Water Conservation by Service Customers.
    1. Mandatory water use reduction equal to projected water supply availability deficit for all customers, including community gardens, served by the Longmont Water Utilities. Outdoor watering restrictions will be set based upon severity of drought. Restrictions will result in severely cutting back or completely eliminating watering based upon severity of the Level Three drought.
    2. Water rates to be adjusted to provide clear financial incentive to limit outside water use using the increasing block structure. Adjust water rates to maintain revenue during the drought as needed.
    3. Impose a moratorium on new water taps.
    4. No additional water use through the potable system to replace water normally used through raw water, well water or other water supply scenarios.
    5. Irrigation class tap customers will be required to reduce demand by a minimum of 90%, or possibly eliminated.

- Mandatory measures for raw water reduction in municipal and school use of water. All outdoor watering of public facilities may be eliminated depending upon the severity of the drought at this level.
    1. Parks & Recreation water reductions, resulting in a reduction of 90 % of use. Minimal watering of critical sports fields and parks will occur. The primary intent of Parks and Recreation watering will be to maintain economic investments in non-turf landscaping, trees and municipal facilities. Field use will be restricted or eliminated to protect facilities as needed.
    2. Golf course watering will be limited to greens and tees.
    3. School District irrigation water lease eliminated.
    4. Saint Vrain Creek Corridor Committee water lease eliminated to the extent that water is unable to be recaptured for use at the Water Treatment Plants.
    5. All other municipal water use will be reduced to the maximum extent possible (Building use, Fire dept. etc.).

- Raw water leases and bulk water sales.
    1. Surplus water rental eliminated.

2. Historic lease back of raw water eliminated.
3. Bulk water permits and sale of water through fire hydrants will not normally be allowed. Hydrant use for irrigation will not be allowed.

- Division staff will continue to further develop plans for responding to the drought. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. Division staff will continue to monitor and enforce watering restrictions as necessary.

Website Links:

City of Longmont Public Works & Natural Resources Department:
http://www.ci.longmont.co.us/pwwu/index.htm

Snow Survey Data:
http://www.co.nrcs.usda.gov/snow/snow/

Reviewed by:

Longmont Water Board on April 15, 2013

Water Supply and Drought Management Plan

April 2013

	Response Sustainable Conservation Level	Response Level One	Response Level Two	Response Level Three
Raw Water Supply Raw water supply availability projection for 2 years	Greater than 135%	120% - 135%	105% - 120%	Less than 105%
Water Use Activities 1. Public information	Continue public information concerning impacts to Longmont's water supply	Increase public information about the drought severity and drought level	Continue public information about the drought severity and drought level	Continue public information about the drought severity and drought level
2. Best management practices (BMP's)	a. No water being wasted	b. Use soil amendments and mulch	c. Check and replace leaky faucets and toilets	d. Wash only full loads of clothes and dishes
a. Water Customers	Encourage all water customers to implement BMP's	Voluntary 10% reduction in water use from historical levels	Mandatory minimum 10% reduction in water use from historical levels	Mandatory water use reduction equal to projected water supply availibilty. Restrictions will result in severly cutting back or completely eliminating outdoor watering
b. Parks & Recreation	Conserve water where possible and utilize BMP's	Mandatory 10% reduction of historical annual water use. Voluntary reductions apply to municipally owned critical sports fields	Mandatory 20% - 90% reduction of historical annual water use depending upon severity of drought. 10% reduction to critical sports field	Mandatory 90% reduction of historical annual water use
c. Golf Courses	Conserve water where possible and utilize BMP's	Mandatory 10% reduction of historical annual water use	Mandatory 20% - 90% reduction of historical annual water use depending upon severity of drought	Watering will be limited to greens and tees only
d. School District	Will be encouraged to conserve water where possible and utilize BMP's	Irrigation water lease reduction as appropriate, resulting in a minimum of 10% reduction of historical annual water use	Mandatory 20% - 90% reduction of historical annual water use depending upon severity of drought	Eliminated
e. City Owned Facilities	Will strive to set the benchmark for water use practice	Mandatory 10% reduction of historical annual water use	Water use reduced to the maximum extent possible	Water use reduced to the maximum extent possible
f. Surplus Water Rental	Unrestricted - Based on Availability	Reduced or Eliminated	Eliminated	Eliminated
g. Water Leases with existing contracts	Unrestricted	Unrestricted or Reduced	Unrestricted or Reduced	Reduced
h. Historic Lease Back	Unrestricted	Reduced or Eliminated	Eliminated	Eliminated
i. Saint Vrain Creek Corridor Committee	Unrestricted	Reduced or Eliminated	Eliminated	Eliminated
j. City Owned Properties - Contractual Lease Back	Unrestricted	Unrestricted or Reduced	Reduced or Eliminated	Eliminated
k. City Owned Properties - surplus water rental program	Unrestricted -Based on Availibility	Reduced or Eliminated	Eliminated	Eliminated
l. Bulk Water Permits	Unrestricted	Reviewed for water use and total demand on system	Reviewed for use and total demand on system	Eliminated
4. Non-watering hours	Voluntary no watering between 10 a.m. and 6 p.m.	Voluntary no watering between 10 a.m. and 6 p.m.	Mandatory no watering between 10 a.m. and 6 p.m.	Mandatory no watering between 10 a.m. and 6 p.m.

TABLE A
CITY OF LONGMONT
WATER RIGHTS YIELDS
2013

revision date 04/15/2013

WATER RIGHTS	2002 ACTUAL RAW WATER USE AC-FT	2011 ACTUAL RAW WATER USE AC-FT	2012 ACTUAL RAW WATER USE AC-FT	2013 PROJECTED RAW WATER AVAILABLE AC-FT	2014 PROJECTED RAW WATER AVAILABLE AC-FT	2015 PROJECTED RAW WATER AVAILABLE AC-FT
1. CBT QUOTA DECLARATION	70%	80%	100%	60%	60%	60%
2. DIRECT FLOW WATER RIGHT DECREES	3309	6256	3952	7677	6699	6699
3. 1929 TRANSFER DECREES	1108	1281	621	1204	1272	1272
4. PIPELINE DECREES	904	1964	1581	1854	1841	1841
5. TRANSFERED RESERVOIR STORAGE DECREES	456	627	2132	1163	1163	1163
6. RESERVOIR STORAGE AVAILABLE FOR RELEASE	7366	3682	4312	4687	3991	3991
7. TRANSBASIN WATER RIGHTS	8715	17838	22540	13474	14011	14011
8. LESS CBT CARRYOVER BETWEEN YEARS	(940)	(2542)	(2496)	(1271)	(2825)	(2825)
9. LESS WATER RENTAL AND LEASES	(1497)	(5908)	(7226)	(3000)	(1000)	(1000)
10. TOTALS	19421	23198	25416	25788	25152	25152
11. DEMANDS AT LEVEL 1 DROUGHT RESPONSE	17217					
12. PERCENT OF SUPPLY VS DEMAND AT LEVEL 1 RESPONSE	**113%**					
13. DEMANDS AT SUSTAINABLE CONSERVATION LEVEL *		17108	18257	18440	18624	18810
14. PERCENT OF SUPPLY VS DEMAND AT SUSTAINABLE CONSERVATION LEVEL		**136%**	**139%**	**140%**	**135%**	**134%**
B1. NOVEMBER 1ST PROJECTED STORAGE				28000		
B2. DROUGHT LEVEL INDICATED BY WATER IN STORAGE				S		
B3. TO DATE IN-BASIN LONGMONT STORAGE (AC-FT)				27991		
B4. NUMBER OF MONTHS AVAILABLE TO MEET AVERAGE DEMAND				19		

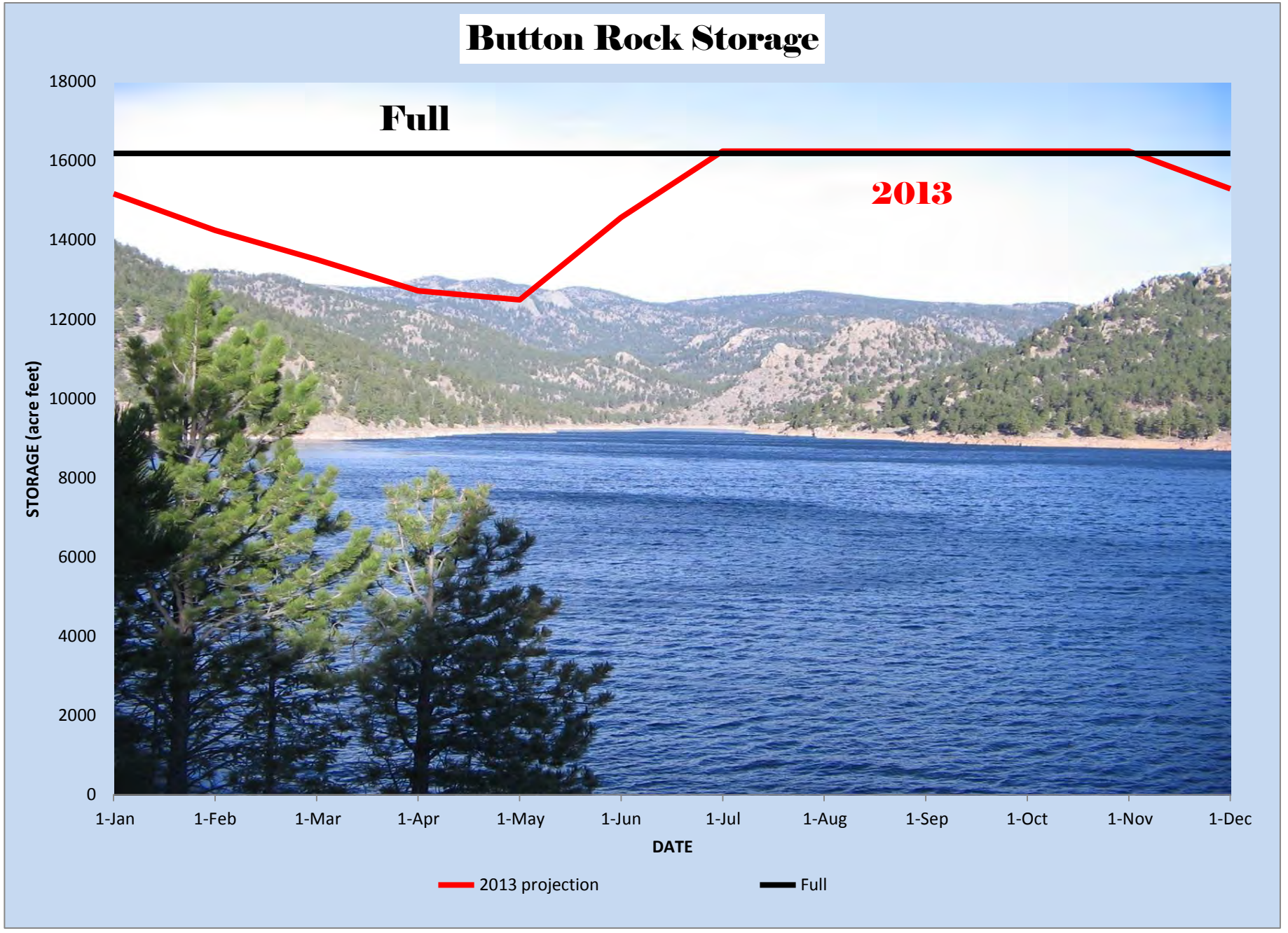
* Projected water demands reflect previous water demand usage and consider long range weather forecasts, water conservation efforts, changes in treated water demands, economic forecasts and community growth.

TABLE B
RALPH PRICE RESERVOIR STORAGE
2013

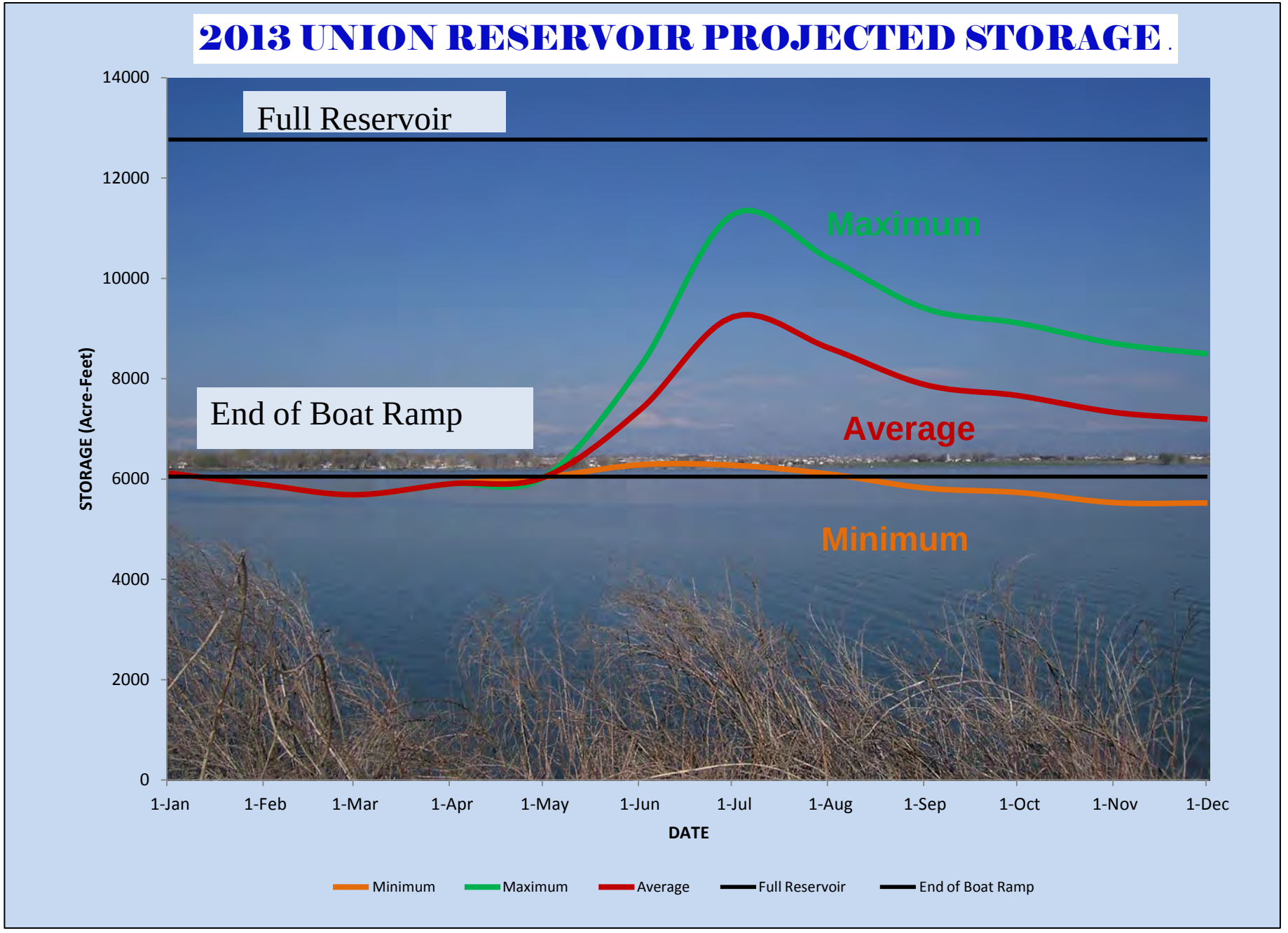
	* DESIGN DROUGHT YEAR						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Calendar Year	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Sustainable Conservation Level	>90%	>90%	>85%	>85%	>80%	>80%	>75%
Response Level One	75% - 90%	75% - 90%	70% - 85%	70% - 85%	65% - 80%	65% - 80%	60% - 75%
Response Level Two	60% - 75%	60% - 75%	55% - 70%	55% - 70%	50% - 65%	50% - 65%	50% - 60%
Response Level Three	< 60%	< 60%	< 55%	< 55%	< 50%	< 50%	< 50%

JULY 15, 2013 **PROJECTED** BUTTON ROCK STORAGE (AC-FT)	**	15697	**97%**
April 12, 2013 **ACTUAL** BUTTON ROCK STORAGE (AC-FT)		12430	**77%**

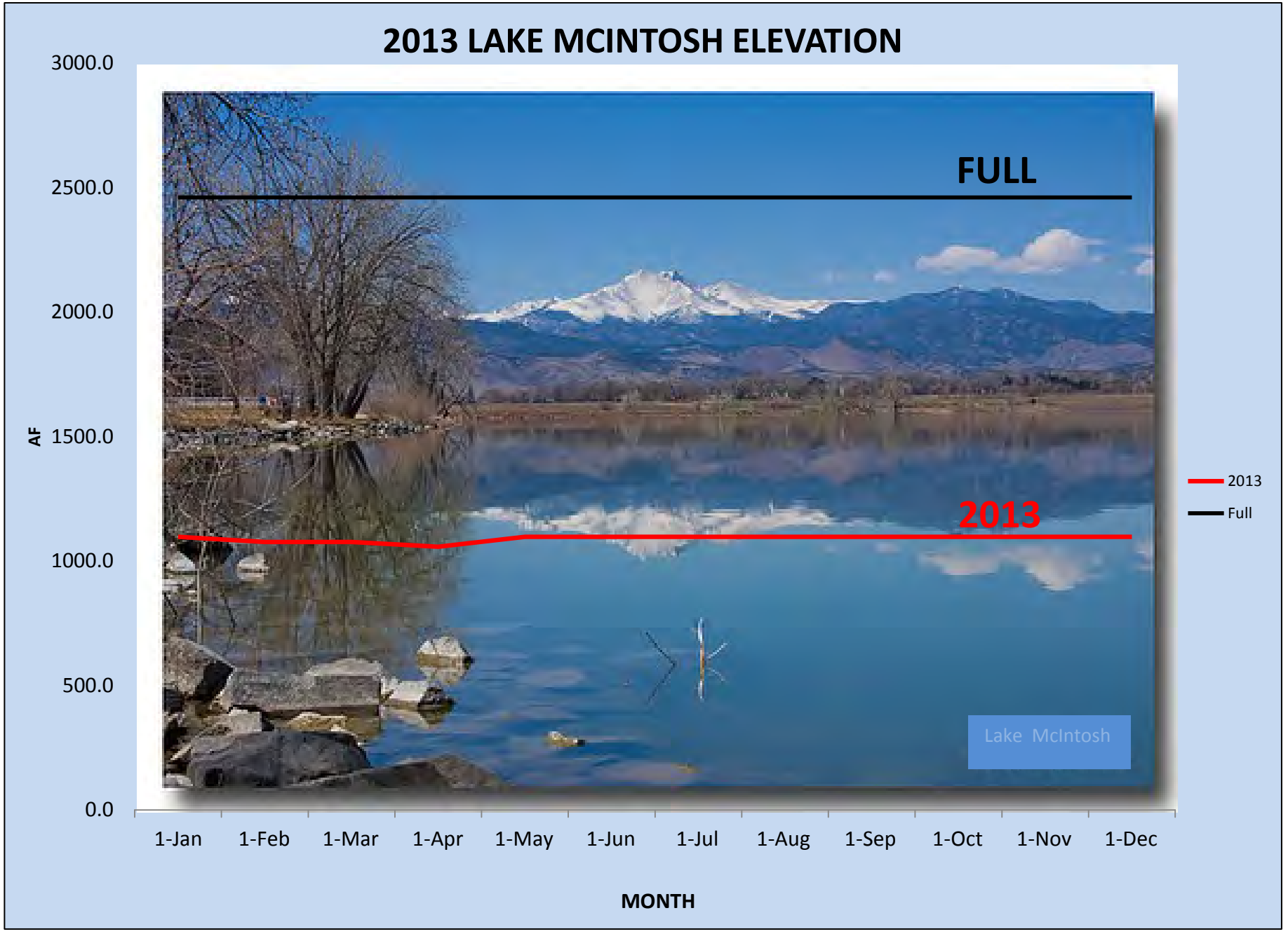
Button Rock Storage



2013 UNION RESERVOIR PROJECTED STORAGE.



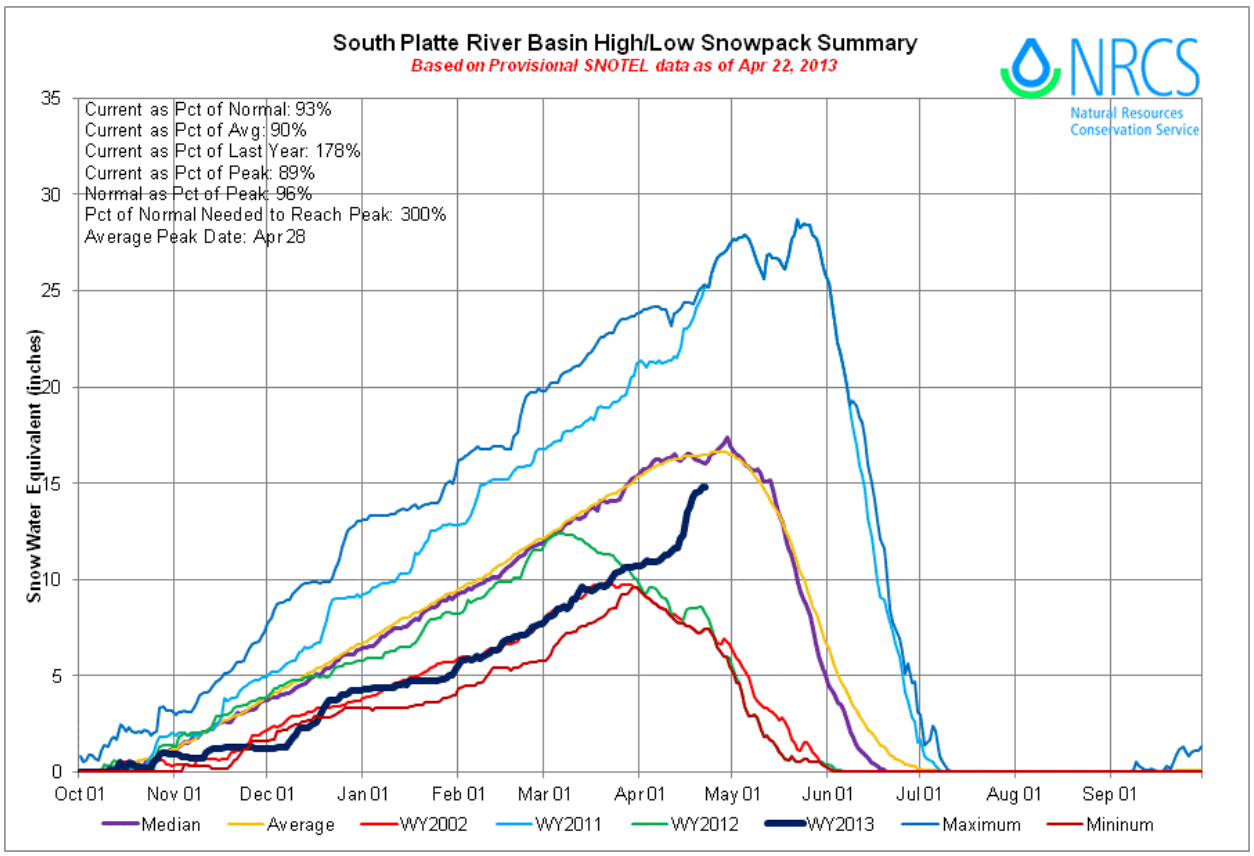
2013 LAKE MCINTOSH ELEVATION

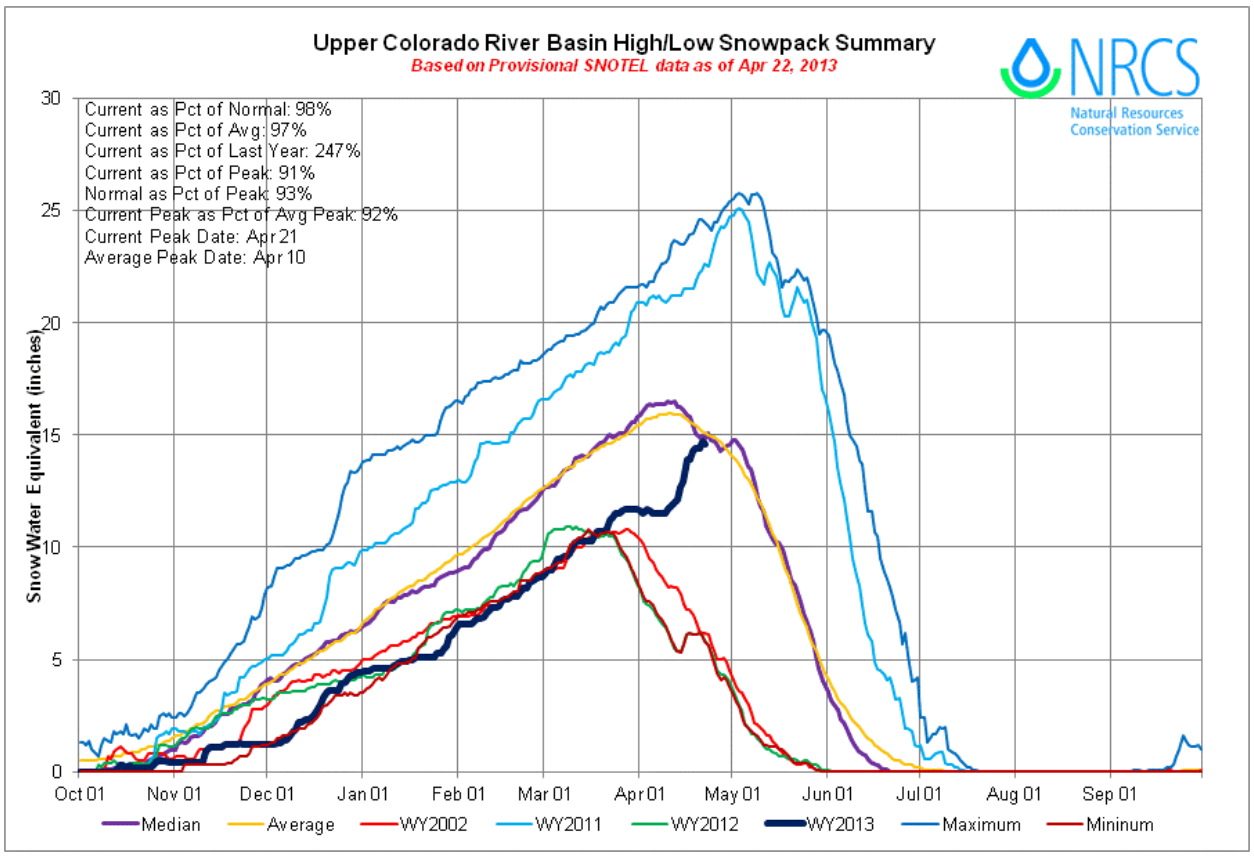


City of Longmont Guiding Water Principles

	Statement of Goal	*Policy Statement*
Goal 1	The City will acquire and maintain a raw water supply sufficient to meet the water demands of the City at full build-out of the Longmont Planning Area during a drought with a 1 in 100 year recurrence interval.	The City will maintain diligence on conditional water supply projects. The City will continue to meet its Raw Water Quality of Life Benchmark. The City will continue to pursue efforts to maintain and improve the yields of its water rights and interests in regional water projects.
Goal 2	The City will maintain and enforce a Raw Water Requirement Policy that is consistent with other polices adopted by the city, and that support the attainment of the other goals stated in this document.	The City will continue to consistently apply the Raw Water Requirement Policy to all new development in the City. The City will continue to revise the Raw Water Policy as necessary to meet the water supply needs of the City.
Goal 3	The City will acquire, develop, and beneficially use a water supply that consists of water rights in the South Platte and Colorado River basins.	The City's water supply will continue to be composed approximately one-third from the Colorado Big Thompson and Windy Gap projects with the balance from St. Vrain and Left Hand basin water rights.
Goal 4	The City will pursue policies that develop and maintain a high quality raw water supply for delivery to treatment facilities either directly or by exchange.	The City will place highest priority on development and maintenance of water originating in high mountain watersheds, and the storage of that water in mountain reservoirs. The City will integrate other sources of supply, giving highest priority to exchanges. The integration of such supplies into the treatment system will take place as demand requires and when technology of treatment evolves to allow for high quality potable water at reasonable treatment costs.
Goal 5	The City will pursue policies that promote the retention and preservation of water supplies that originate in the St Vrain Basin for use within the St. Vrain Valley.	The City will work cooperatively with the St. Vrain and Left Hand Water Conservancy District and local irrigation companies and water districts to develop and implement strategies that result in the preservation, retention, and use of native water supplies.
Goal 6	The City will pursue policies that will protect and improve the quality of the water supplies in the St. Vrain Creek watershed.	The City will continue to develop and implement watershed protection programs, actively participate in implementing projects and programs that improve the water quality of storm water discharges, and discharges from the Wastewater Treatment Plant that are within the Total Maximum Daily Loading of the St. Vrain Creek.

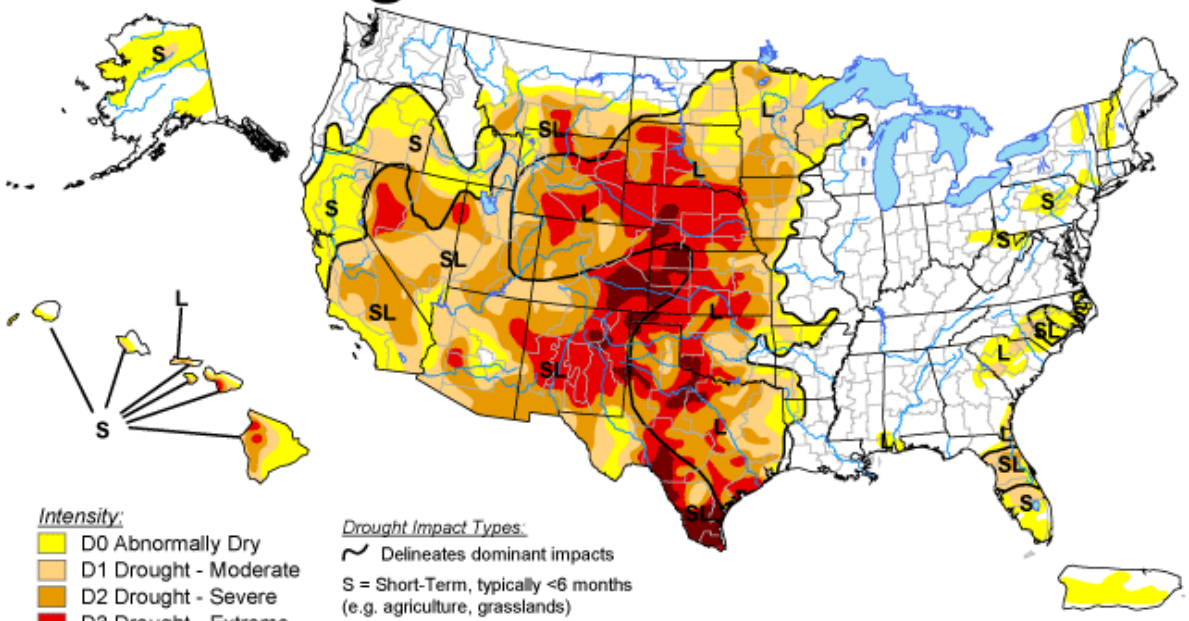
	Statement of Goal	*Policy Statement*
Goal 7	The City will develop and implement a water conservation policy that strives to achieve a sustainable use of its water resources.	The City will strive to achieve water conservation that results in water demands at build out of the Longmont Planning Area that are 10 percent lower than current projections. The City will pursue water development that does not rely on the dry up of agricultural lands.
Goal 8	The City will pursue water policies and operations that minimize adverse environmental impacts.	The City will independently and in partnership with other agencies and organizations evaluate the environmental impacts of water development projects and operate the City's water resource facilities to minimize adverse environmental impacts while not unreasonably diminishing the yield of the City's water supplies.
Goal 9	The City will pursue water policies and operations that promote multiple uses of water.	The City will manage it's water resources with the primary goal of meeting the domestic water needs of its customers while also striving to provide for other water uses such as recreational, agricultural, and environmental.
Goal 10	The City will develop a strategy of flexibility in raw water supply that will enable it to respond to changes in supply and demand conditions.	The City will continue to acquire, develop and operate its water supply to provide for the necessary redundancy, flexibility and capacities to address potential changes in climate, system and operational failures, and changes in water demands while maintaining a reliable water supply.
Goal 11	The City will consider regional supply and treatment partnerships and agreements that complement and support other regional goals of the City and clearly benefit the citizens of Longmont.	The Longmont Municipal Charter, Section 11.1, allows the City to provide extraterritorial water service provided the agreements or contracts clearly benefit the inhabitants of the City.
Goal 12	The City will develop strategies to meet the above goals in the most economically beneficially manner for the citizens of Longmont.	The City will continue to evaluate the costs and benefits of all water development strategies and seek to meet the water needs of the community using favorable financing options, encouraging water conservation, efficient project designs, and partnering in regional water projects were appropriate.


South Platte River Basin High/Low Snowpack Summary
Based on Provisional SNOTEL data as of Apr 22, 2013
NRCS
Natural Resources Conservation Service
Current as Pct of Normal: 93%
Current as Pct of Avg: 90%
Current as Pct of Last Year: 178%
Current as Pct of Peak: 89%
Normal as Pct of Peak: 96%
Pct of Normal Needed to Reach Peak: 300%
Average Peak Date: Apr 28
Snow Water Equivalent (inches)
35
30
25
20
15
10
5
0
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
Average
WY2002
WY2011
WY2012
WY2013
Maximum
Mininum


Upper Colorado River Basin High/Low Snowpack Summary
Based on Provisional SNOTEL data as of Apr 22, 2013
NRCS
Natural Resources Conservation Service
Current as Pct of Normal: 98%
Current as Pct of Avg: 97%
Current as Pct of Last Year: 247%
Current as Pct of Peak: 91%
Normal as Pct of Peak: 93%
Current Peak as Pct of Avg Peak: 92%
Current Peak Date: Apr 21
Average Peak Date: Apr 10
Snow Water Equivalent (inches)
30
25
20
15
10
5
0
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
Average
WY2002
WY2011
WY2012
WY2013
Maximum
Mininum

U.S. Drought Monitor

April 16, 2013
Valid 7 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
L = Long-Term, typically >6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/

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